

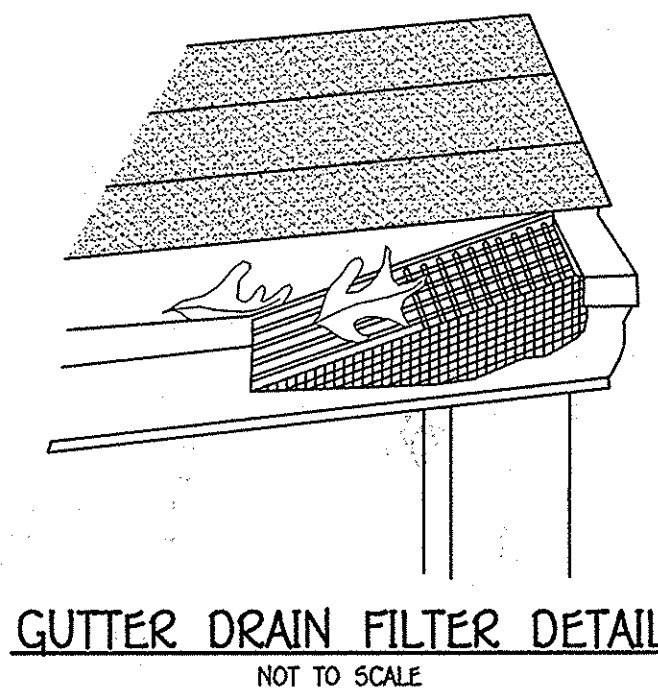
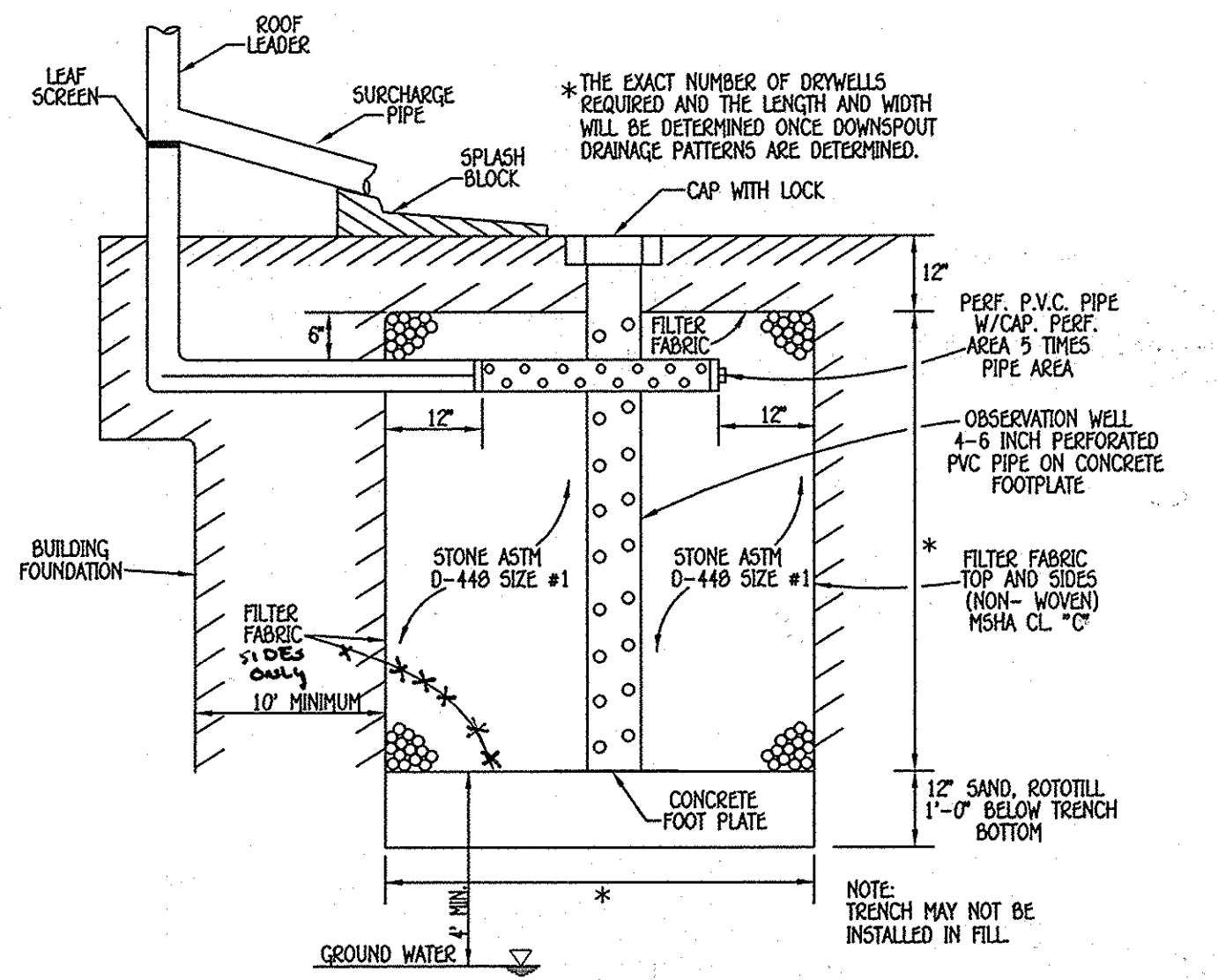
SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ENVIRONMENTAL CONCEPT PLAN

SOILS LEGEND			
SOIL	NAME	CLASS	K FACTOR
GhB	Glenn-Urbán land complex, 0 to 8 percent slopes	B	.20
GnB	Glennville-Báile silt loams, 0 to 8 percent slopes	C	.37
MhC	Mánor loám, 0 to 15 percent slopes	B	.24

Soil Map Number: 14 (Ellicott City, SE)

STORMWATER MANAGEMENT SUMMARY			
AREA ID.	ESDV REQUIRED CU.FT.	ESDV PROVIDED CU.FT.	REMARKS
SITE	633	650	DRY WELLS (M-5)
TOTAL	633	650	

GROSS AREA = 1.376 ACRES
 LOD = 0.75 ACRES
 RCN = 55
 TARGET Pe = 1.2"



STORMWATER MANAGEMENT NOTES

- STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
- MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 1,000 SQ. FT. OR LESS.
- DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5%. THE SIZE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET.
- FINAL GRADING IS SHOWN ON THE SITE DEVELOPMENT PLAN.

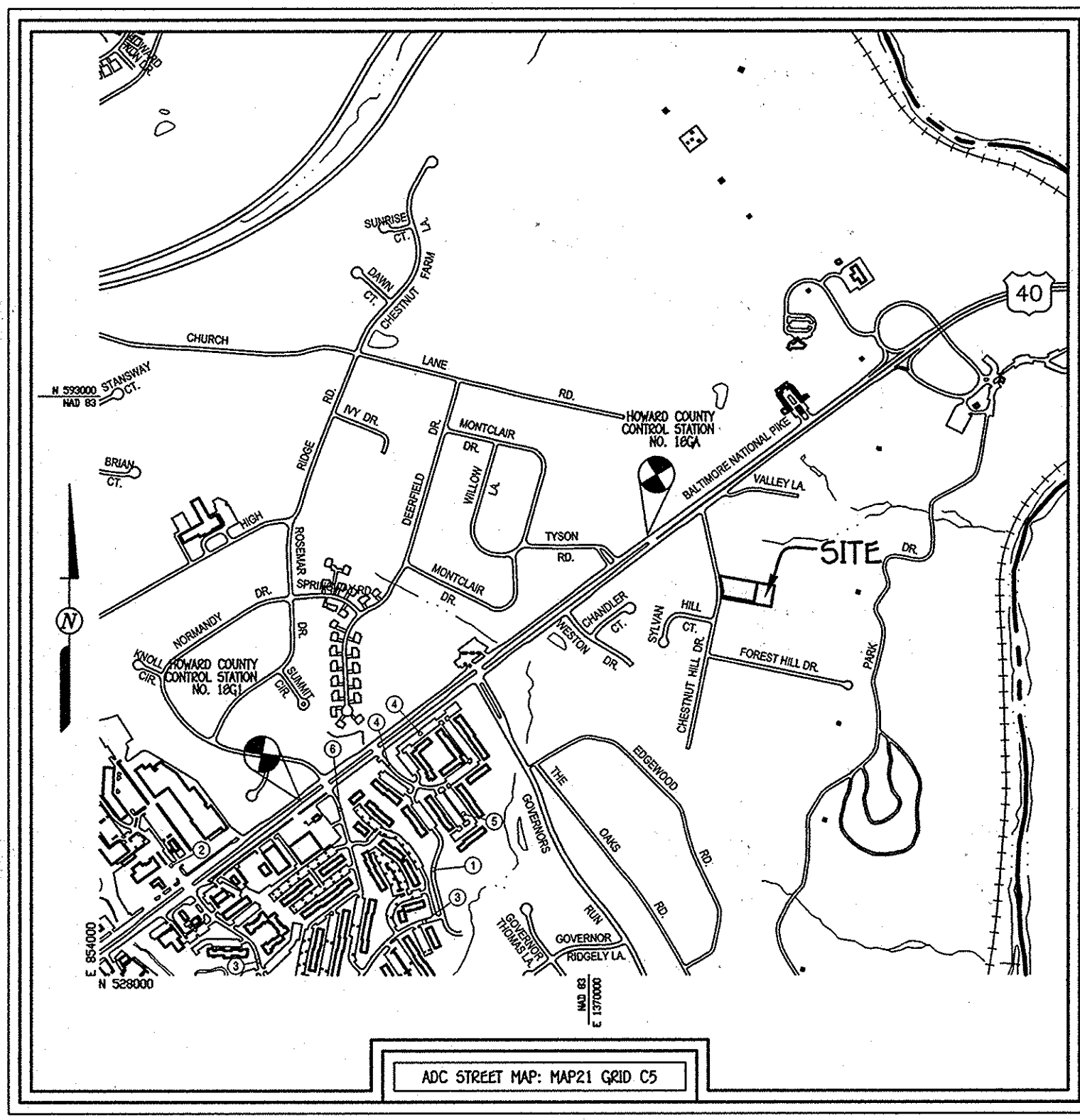
ENVIRONMENTAL CONCEPT PLAN GOLDBERG PROPERTY LOTS 5 AND 6

TAX MAP No. 18 GRID No. 20 PARCEL NO. 65
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
---492---	EXISTING 2' CONTOURS	---	PROPOSED CONTOUR
---490---	EXISTING 10' CONTOURS	+	SPOT ELEVATION
GhB	SOILS LINES AND TYPE	---	LIMITS OF DISTURBANCE
---	EXISTING TREELINE	---	DRAINAGE AREA DIVIDE
---	INDIVIDUAL TREES & SHRUBS	---	SILT FENCE
---	EXISTING FENCE LINE	---	EROSION CONTROL MATTING
---	EXISTING & PROPOSED PAVING	---	STABILIZES CONSTRUCTION ENTRANCE

GENERAL NOTES

- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1800 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY (PESB UTILITY) AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- BOUNDARY SHOWN HEREON IS BASED ON FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. DATED OCTOBER 2015. TOPOGRAPHY SHOWN HEREON IS BASED ON TOPOGRAPHIC SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. IN OCTOBER 2015 AND SUPPLEMENTED WITH HOWARD COUNTY GIS TOPOGRAPHY AT 5' CONTOUR INTERVAL INTERPOLATED FOR 2' CONTOUR INTERVAL.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 18GA AND 18GI WERE USED FOR THIS PROJECT.
- PREVIOUS DPZ FILE NUMBERS: F-81-145, VP-01-04.
- STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. NON-STRUCTURAL PRACTICES IN ACCORDANCE WITH CHAPTER 5 ARE BEING UTILIZED.
- THIS PROPERTY IS LOCATED INSIDE THE METROPOLITAN DISTRICT. LOTS TO BE SERVED PUBLIC WATER AND PUBLIC SEWER, CONTRACT #20-WAS.
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- THE SUBJECT PROPERTY IS ZONED R-20 (PER DATE 10/06/2013 COMPREHENSIVE ZONING PLAN).
- NO 100 YEAR FLOODPLAIN, WETLANDS, STREAM(S) AND/OR THEIR BUFFERS, NOR STEEP SLOPES EXIST ON-SITE.
- NO FOREST STANDS EXIST ON-SITE. SEE ENVIRONMENTAL FINDINGS LETTER PREPARED BY FISHER, COLLINS & CARTER, INC. DATED JAN. 2016.
- LANDSCAPING WILL BE PROVIDED AT THE FINAL PLAN STAGE OF THIS PROJECT.
- FOREST CONSERVATION REQUIREMENTS FOR THIS PROPOSED RESUBDIVISION WILL BE PROVIDED AT THE FINAL PLAN STAGE OF THIS PROJECT TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 16.1000 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION ACT.
- A SOIL BORING WILL BE REQUIRED FOR THIS PROJECT SINCE DRYWELLS ARE BEING UTILIZED.
- APPROVAL OF THIS ECP DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT SUBDIVISION, FOREST CONSERVATION, OR SITE DEVELOPMENT PLANS. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED COMMENTS THAT MAY ALTER THE SITE DESIGN, HOUSE LOCATION, DRIVEWAY LOCATION, GRADING, TREE CLEARING, AND/OR OTHER REQUIREMENTS AS THE DEVELOPMENT PLAN PROGRESSES THROUGH THE PLAN REVIEW PROCESS IN ACCORDANCE WITH THE SUBDIVISION AND ZONING REGULATIONS AND THE FOREST CONSERVATION REQUIREMENTS.
- APPROVAL OF THIS ECP BY THE HOWARD COUNTY CONSERVATION DISTRICT DOES NOT PROVIDE APPROVAL OF THE SHOWN SEDIMENT CONTROLS.
- A STRUCTURE EXISTS ON THE PROPERTY, KNOWN AS #2913 CHESTNUT HILL DRIVE, WHICH IS TO REMAIN. POOL HOUSE AND POOL TO BE REMOVED.
- SOILS SHOWN HEREON ARE BASED ON THE NCS WEBSOIL SURVEY AND HOWARD COUNTY SOIL MAP #14.



DESIGN NARRATIVE

Introduction:
 This report will demonstrate how the criteria set forth in the Maryland Stormwater Design Manual, Volumes I and II (effective October 2000, revised May 2009) will be satisfied on this project. The goal of creating hydrology similar to that of "Woods in Good Condition" will be accomplished through the use of the practices contained within Chapter 5 of said manual. The achievement of this goal will remove the requirement of providing Channel Protection Volume.

- General Site Conditions:**
 2913 Chestnut Hill Drive is zoned R-20 and is located on Tax Map 18, Parcel No. 65 of the Howard County, Maryland Tax Map Database System. The property was previously recorded as Goldberg Property, Lot 1 under plat number 518 in January 26, 1982. The site has an existing house on an open lot (not forested) with some individual trees. Since this subdivision was created prior to Forest Conservation regulations, it is anticipated that a fee-in-lieu will be required. The proposed house will be served by public water and sewer, the existing house is also served by public water and sewer. The runoff from the lot is mostly from northwest to southeast to the rear corner of the new lot. Driveways will be utilized to treat majority rooftop and driveway runoff. Per the 2004 Wet Soil Survey, soils on-site consist of "GhB", "Gelsly", "Urban land complex, type B soil and "MhC", "Mánor Loám, Type B soil.
- Natural Resource Protection:**
 Environmentally sensitive features such as wetlands, streams, their buffers, steep slopes, and floodplain do not exist on-site.
 - Maintenance of Natural Flow Patterns:**
 Nature flow patterns will be maintained. Existing and proposed runoff flows mostly toward the southeast portion of the site.
 - Reduction of Impervious Areas through better site design, alternative surfaces and Nonstructural Practices:**
 A single driveway is proposed to provide access to the proposed house. This driveway will connect with an existing use-in-common driveway used by lots 2, 3 and 4, as well as the existing house on Lot 1 (proposed Lot 5). Lots 2 and 3 of Sparrow Property subdivision utilizes the existing use-in-common driveway.
 - Integration of Erosion and Sediment Controls into Stormwater Strategy:**
 Silt Fence will be utilized to provide erosion and sediment control.
 - Implementation of ESD Planning Techniques and practices to the Maximum Extent Practicable (MEP):**
 The required ESD volume is being provided.
 - Request for a Design Manual Waiver:**
 No stormwater management waivers are required.

Table B.4. Materials Specifications for Micro-Bioretenion, Rain Gardens & Landscape Infiltration

Material	Specification	Size	Notes
Plantings	see Appendix A: Table A.4	n/a	plantings are site-specific
Planting soil (2" to 4" deep)	loamy sand 60-65% compost 35-40% or sandy loam 30% compost 30%		USDA soil types loamy sand or sandy loam; clay content <5%
Organic Content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum
Pea gravel diaphragm	pea gravel: ASTM-D-448	No. 8 or No. 9 (1/8" to 3/8")	
Curtain drain	ornamental stone: washed cobble	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	ASTM M-43	No. 57 or No. Aggregate (3/8" to 3/4")	
Underdrain piping	F 750, Type PS 2B or ASTM N-27B	4" to 6" rigid schedule 40 PVC or SDR35	Slopped or perforated pipe: 3/8" pert. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4 inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f = 3500 psi at 28 days, normal weight. (Cast-in-place or pre-cast) not using previously approved site or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.8.799, vertical loading D1-10 or H-20; allowable horizontal loading (based on soil pressures); and analysis of potential cracking	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (Cast-in-place or pre-cast) not using previously approved site or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.8.799, vertical loading D1-10 or H-20; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	ASTM-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone (ASTM) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

BENCHMARK INFORMATION	
B.M.#1 - HOWARD COUNTY CONTROL STATION #18GA - HORIZONTAL - (NAD '83) (LOCATED ON THE NORTH SIDE OF HUNTING LANE WEST OF NEWBERRY DRIVE) N 991,871.972 E 1,370,380.497 ELEVATION = 445.749 - VERTICAL - (NAVD '88)	
B.M.#2 - HOWARD COUNTY CONTROL STATION #18G1 - HORIZONTAL - (NAD '83) (LOCATED ON THE SOUTH SIDE OF HUNTING LANE) N 991,984.901 E 1,387,750.306 ELEVATION = 407.736 - VERTICAL - (NAVD '88)	

DRY WELL CHART					
DRYWELL NO.	AREA OF ROOF PER DOWN SPOUT	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L W D
LOT 34 (LT.)	1,000 SQ. FT.	76 C.F.	160 C.F.	100%*	10' x 8' x 5'
FRONT (LT.)	1,000 SQ. FT.	76 C.F.	160 C.F.	100%*	10' x 8' x 5'
FRONT (RT.)	1,000 SQ. FT.	76 C.F.	168 C.F.	100%*	14' x 6' x 5'
DRIVEWAY	1,000 SQ. FT.	95 C.F.	162 C.F.	100%*	9' x 9' x 5'

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)

- THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.
- THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO (72) HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

SITE ANALYSIS DATA CHART

- TOTAL AREA OF THIS SUBMISSION = 1.376 AC.
- LIMIT OF DISTURBED AREA = 32,600 SQ.FT. OR 0.748 AC.
- PRESENT ZONING DESIGNATION = R-20 (PER 10/06/2013 COMPREHENSIVE ZONING PLAN)
- PROPOSED USE: RESIDENTIAL
- PREVIOUS HOWARD COUNTY FILES: F-81-145
- TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 0.00 AC.
- TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0.00 AC.
- TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0.00 AC.
- TOTAL AREA OF STREAM (INCLUDING BUFFER) = 0.00 AC.
- TOTAL AREA OF EXISTING FOREST = 0.00 AC.
- TOTAL AREA OF FOREST TO BE RETAINED = 0.00 AC.
- TOTAL AREA OF LOTS / BUILDABLE PARCELS = 1.376 AC.
- TOTAL GREEN OPEN AREA = 0.921 AC.
- TOTAL IMPERVIOUS AREA = 0.455 AC.
- TOTAL AREA OF ERODIBLE SOILS = 0.00 AC.
- TOTAL AREA OF ROAD DEDICATION = 0.00 AC.

NO.	REVISION	DATE	X

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2995

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21351, EXPIRATION DATE: 07/15/2017.

Signature of Professional Land Surveyor: *[Signature]* DATE: 3/14/16

OWNER/DEVELOPER
 ANI REAL ESTATE INVESTMENTS LLC
 ATTN: VINI MOTWANI
 301 ARGOSY DRIVE
 GAITHERSBURG, MARYLAND 20878
 240-597-2525

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING			
<i>[Signature]</i> Chief, Division of Land Development	3-18-16 Date		
<i>[Signature]</i> Chief, Development Engineering Division	4-5-16 Date		
PROJECT: GOLDBERG PROPERTY, LOTS 5 AND 6	SECTION: -	PARCEL NO. 65	
FLAT NO. 5108	BLOCK NO. 20	ZONE R-20	TAX/ZONE 18
ELEC. DIST. SECOND		CENSUS TR. 602900	

TITLE SHEET
GOLDBERG PROPERTY,
 LOTS 5 AND 6,
 2913 CHESTNUT HILL DRIVE
 ZONED R-20
 TAX MAP No. 18 GRID No. 20 PARCEL No. 65
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: JANUARY, 2016
 SHEET 1 OF 2
ECP-16-040

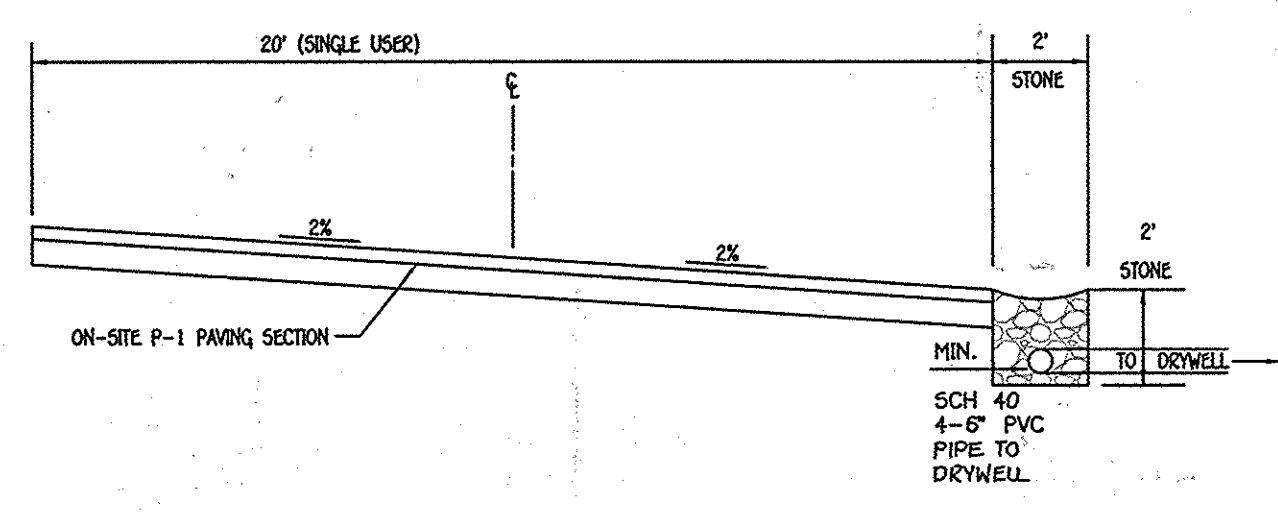
LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING 2' CONTOURS		PROPOSED CONTOUR
	EXISTING 10' CONTOURS		SPOT ELEVATION
	SOILS LINES AND TYPE		LIMITS OF DISTURBANCE
	EXISTING TREELINE		DRAINAGE AREA DIVIDE
	INDIVIDUAL TREES & SHRUBS		SILT FENCE
	EXISTING FENCE LINE		EROSION CONTROL MATTING
	EXISTING & PROPOSED PAVING		STABILIZES CONSTRUCTION ENTRANCE
	T.B.R. TO BE REMOVED		TREE PROTECTION FENCE
	EXIST. ASPHALT TO BE REMOVED		DA TO STONE TRENCH AND DRYWELL

STORMWATER MANAGEMENT PRACTICES				
LOT NO.	DISCONNECTION OF ROOFTOP RUNOFF (N-1) Y/N, NUMBER	DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2) Y/N	DRY WELLS (N-5) Y/N, NUMBER	GRASS SWALES (N-6) Y/N, NUMBER
5	-	-	-	-
6	NO	NO	YES, FOUR (4)	NO

SOILS LEGEND			
SOIL	NAME	CLASS	K FACTOR
GhB	Glennel-Urban land complex, 0 to 8 percent slopes	B	.28
GnB	Glennville-Baile silt loams, 0 to 8 percent slopes	C	.43
MaC	Manor loam, 8 to 15 percent slopes	B	.28

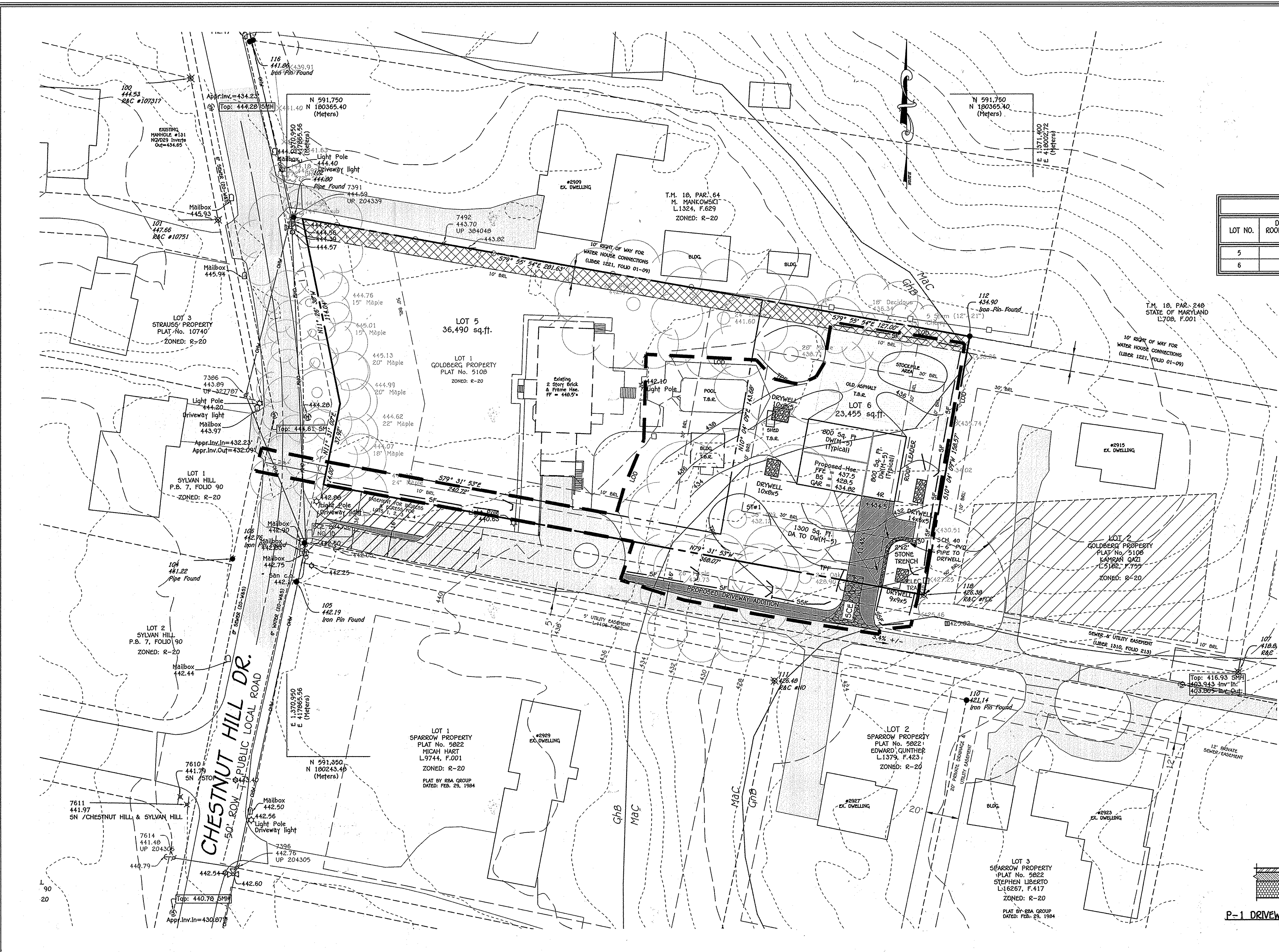
SPECIMEN TREE TABLE				
KEY	SPECIES	SIZE (DBH)	CRZ (FT RADIUS)	COMMENTS
1	Pin Oak	36"	54.0	POOR, DIEBACK (TO REMAIN)

- NOTE:
- ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.
 - DRIVE MUST SLOPE TOWARD GRAVEL TRENCH.
 - 4-6 INCH PERFORATED PVC PIPE PLACED IN GRAVEL ALONG EASTERN EDGE OF DRIVEWAY



P-1 DRIVEWAY PAVING SECTION
NOT TO SCALE

TYPICAL PRIVATE DRIVE CROSS SLOPE SECTION
NOT TO SCALE



NO.	REVISION	DATE

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21551, EXPIRATION DATE: 07/15/2017.

James H. [Signature] 3/10/2016
Signature of Professional Land Surveyor DATE

OWNER/DEVELOPER

ANI REAL ESTATE INVESTMENTS LLC
ATTN: VIPIN MOTWANI
301 ARGOSY DRIVE
GATHERBURG, MARYLAND 20878
240-597-2525

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Kat Shalinski 3-18-16
Chief, Division of Land Development Date

Chad Edwards 4-5-16
Chief, Development Engineering Division Date

PROJECT	SECTION	PARCEL NO.			
GOLDBERG PROPERTY, LOTS 5 AND 6	-	65			
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5108	20	R-20	18	SECOND	602900

ENVIRONMENTAL CONCEPT PLAN

GOLDBERG PROPERTY,
LOTS 5 AND 6,
2913 CHESTNUT HILL DRIVE
ZONED R-20
TAX MAP No. 18 GRID No. 20 PARCEL No. 65
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: JANUARY, 2016
SHEET 2 OF 2

ECP-16-040